

**EPA Superfund
Record of Decision Amendment:**

CONRAIL RAIL YARD (ELKHART)

EPA ID: IND000715490

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ELKHART, IN

09/27/2000

**Record of Decision Amendment to Change Groundwater Remedy
Conrail Rail Yard Superfund Site
Elkhart, Indiana**

Introduction

Reasons for a Change in Remedy

Norfolk-Southern (formerly Conrail) and American Premier Underwriters (formerly Penn Central) are currently performing the remedial actions for the Conrail Superfund Site in Elkhart, Indiana (the Conrail Site or the Site). The United States Environmental Protection Agency (USEPA) is the lead enforcement agency on this site with the Indiana Department of Environmental Management (IDEM) as the support agency for oversight of the remedial action at the Site under the authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended, 42 U.S.C. § 9601, et seq. In September 1994, USEPA issued a Record of Decision (1994 ROD) which outlined the remedy selection process and selected the cleanup actions for the contaminated media at the site, including groundwater. The State concurred with the selected remedy. During Remedial Design (RD), information has come to light which necessitates modifications to aspects of the portion of the remedy related to the ground water cleanup. This document provides the background information as to why the modifications are necessary and outlines what modifications to the selected remedy are being adopted. On February 3, 2000, the Settling Defendants submitted a revised "Petition for a Technical Impracticability (TI) Waiver and Request for Remedy Reconsideration" (the Petition) to USEPA asking that the Agency amend the 1994 ROD to change the ground water remedy. In this document, the Settling Defendants brought to USEPA's attention largely new information that substantially supports the need to significantly alter the remedy. This information is summarized below:

- 1) Using current technology, it is not technically feasible to clean up the two dense non-aqueous phase liquid (DNAPL) source areas on the rail yard property within a reasonable time frame; thus, the Settling Defendants are requesting a TI Waiver for these two areas.
- 2) Given the above information, the source areas should be hydraulically contained. Modeling submitted by the Settling Defendants indicates that, with the exception of the Drag Strip area, once the source areas are contained, pumping and treating ground water will not result in a significant decrease in the amount of time it will take for contaminant levels to reach the Maximum Contaminant Levels (MCLs); thus, the Settling Defendants recommended that the dissolved portions of the plumes be cleaned up through natural gradient flushing. The Drag Strip ground water source area would need to be remediated since the presence of this contamination would significantly extend the amount of time needed for the dissolved portions of the County Road 1 plume to flush naturally.

USEPA agrees with the above conclusions and is making these changes to the 1994 ground water remedy through this ROD Amendment. In accordance with the Remedial Design/Remedial Action Consent Decree for the Conrail Site, execution of this ROD Amendment constitutes the Agency's decision with respect to the Petition.

Procedure for Changing the Remedy

Under Section 117(c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9617 and Section 300.435(c)(2)(ii) of the National Oil and Hazardous Substances Contingency Plan (NCP), if USEPA proposes to fundamentally alter the basic features of the selected remedy with respect to scope, performance, or cost, the Agency shall publish the proposed amendment, receive comments, and provide an opportunity for a public meeting. The decision by USEPA to change the remedy at the Conrail Site fundamentally altered the basic features of the selected remedy, and this necessitated the issuance of a new proposed plan and an amended ROD.

Accordingly, a proposed plan was issued in May 2000, and the public was invited to comment on the alternative remediation methods proposed in the proposed plan. A 30 day public comment period was initiated and a public meeting to discuss the proposed change in the remedy was held on May 11, 2000 at 7:00 pm at the Harley Holben Elementary School in Elkhart, Indiana.

This proposed plan is part of an administrative record which is available for public inspection at the Elkhart Public Library in Elkhart, Indiana. This amended ROD also will become part of the administrative record for the site. The administrative record may also be reviewed at USEPA Region 5, 77 West Jackson Boulevard, Chicago, Illinois. The most recent update to the administrative record comprises Appendix A to this ROD Amendment.

After reviewing the current status of the Site and comparing remedial alternatives, USEPA believed that the request made by the Settling Defendants to amend the remedy for the contaminated ground water at the Conrail Site had merit and should be evaluated. Consequently, USEPA proposed to amend the ground water portion of the 1994 ROD to change the previously selected remedy. After reviewing the public comments, USEPA has determined to change the selected remedy for ground water from pump-and-treat to MCLs to hydraulic containment of DNAPLs on the rail yard and natural gradient flushing of the dissolved portion of the ground water contamination plumes, with cleanup of the Drag Strip source areas. This amended remedy will include the following major components: hydraulic containment of DNAPL source areas; natural gradient flushing; Drag Strip source area remediation; ground water monitoring; and contingency remedy.

I. Site Location and Description

The rail yard began operations in 1956 as part of the New York Central Railroad, and continued as a subsidiary of the Penn Central Transportation Company (now known as American Premier Underwriters) until 1976. From 1962 to 1968, numerous citizen complaints regarding oil discharges from the rail yard to the St. Joseph River via the Crawford Ditch were filed with state and local authorities.

In 1976, operations at the rail yard were transferred to the Consolidated Rail Yard Corporation (Conrail). From 1976 to the present, spills and releases of oil, diesel fuel, hydrochloric acid, caustic soda, and various petroleum-related substances have occurred there. Reports also indicate that a track-cleaning substance (the chemical composition of which is unknown) and engine degreasers were used and disposed of at the rail yard.

The Conrail Site is partially located within the southwestern city limits of Elkhart, Indiana. The remainder of the Site extends into St. Joseph County to the west. The Site encompasses the 675-acre Elkhart Yard of Conrail (now operated by Norfolk Southern), and the area to the north to the St. Joseph River, most of which is residential. Areas of ground water contamination extend from within the Conrail Rail Yard in two directions, north and northwest, into residential areas, designated as the County Road 1 area, the LaRue Street area, the Vistula Avenue area, and the Charles Avenue area (see Figure 1). Contaminants detected in samples collected from private wells in these areas include carbon tetrachloride (CCl₄), trichloroethylene (TCE), and other volatile organic compounds (VOCS).

Based upon sampling performed by EPA representatives in 1986, bottled water was provided to residents whose wells were affected by the contamination. Either carbon filters or water main connections were later installed in residences to ensure safe drinking water.

II. Site History and Enforcement Activities

EPA also conducted an inspection of the Conrail Site in 1986. The results of that inspection revealed TCE concentrations as high as 5850 parts per billion (ppb) and CCl₄ concentrations as high as 117 ppb in soil samples. Based on these results, the location of TCE- and CCl₄-contaminated private wells down gradient from the rail yard, and the history of waste handling practices at the rail yard, the Conrail Site was placed on a roster of sites proposed for inclusion on the National Priorities List (NPL) in June 1988.

The first phase of the Remedial Investigation (RI) was completed in January 1990, and detailed in the April 1990 Preliminary Evaluation Report, as well as being summarized in a

June 1990 fact sheet. During the RI, various investigations were undertaken, including a soil gas survey as well as soil and ground water sampling.

Further investigations were conducted at the Conrail Site, and the final Remedial Investigation report summarizing the results of these investigations was completed in April 1994.

Collectively, the results from the various investigations indicated that;

- Based on soil sampling data, there were two well-defined source areas on the Conrail facility, a CCl₄ source area in the eastern section of the classification yard and a TCE source area in the western section of the classification yard, approximately 1900 feet west of the eastern straight-a-way between tracks 65 and 66;
- A third potential source area with lower levels of contamination was identified in the eastern portion of the Conrail rail yard; and
- There were two identified ground water contaminant plumes coming from the Conrail facility, the County Road 1 plume and the LaRue Street plume. Refer to Figure 2 for the locations and approximate extent of these contaminant plumes.

SCOPE OF INTERIM REMEDIAL ACTION

The Record of Decision (ROD) for interim ground water remedial action at the Conrail Site was signed in June 1991. On July 7, 1992, EPA issued a Unilateral Administrative Order for Remedial Design and Remedial Action (Order), which required Conrail and American Premier Underwriters (APU) to perform the following remedial activities (only Conrail complied with this Order):

- ! Approximately 460 residences were hooked up to the Elkhart municipal water supply between August 1994 and February 1996. Residential wells were abandoned at all residences that received a hookup. Approximately 25 residents refused the hookup;
- ! A quarterly ground water monitoring program was established; and
- ! The ground water extraction, treatment, and discharge system outlined in the ROD was not constructed since the final ROD included a provision for a more extensive ground water pump-and-treat system.

SCOPE OF FINAL REMEDIAL ACTION

The ROD for the final Remedial Action at the Conrail Site was signed on September 9, 1994.

In May 1995, EPA issued a second UAO to Conrail and APU to connect an additional 675 residences to the alternate water supply. This work was performed by Conrail from August 1995 to December 1996. Approximately 35 residents refused the hookup. In November 1997, EPA entered into a Consent Decree with Conrail and APU. Under the terms of the Consent Decree, Conrail and APU were to perform the following work:

- ! Further sampling of a small area of the rail yard for VOCs, and if needed, cleanup of this soil using soil vapor extraction;
- ! Investigations of the Dense Non-Aqueous Phase Liquids (DNAPLs) source areas on the rail yard and the Osceola Drag Strip;
- ! Sampling, and if necessary, cleanup of VOC vapors in residential basements; and
- ! Performance of an Ecological Study on the St. Joseph River to determine if rail yard contamination was having an adverse impact on aquatic life in the river.

The rail yard soil sampling indicated that there were no samples that exceeded applicable cleanup levels in the area that was previously found to have a high concentration of TCE. Thus, no cleanup was necessary for rail yard soils.

The source investigations indicated that a source of CCl₄ contamination exists in the southwestern portion of the Osceola Drag Strip property. Additionally, the source investigations supported the conclusions of previous EPA studies with respect to DNAPLs on the rail yard. A CCl₄ DNAPL area exists in the track 69 area of the classification yard, and a likely TCE DNAPL area exists in the track 65/66 area.

Initial vapor sampling was conducted in 16 homes in site areas which were more likely to have vapor problems (i.e., high water table, highly contaminated shallow ground water). After two rounds of sampling, an area near the Osceola Drag Strip was identified as having detectable levels of CCl₄ in residential homes, primarily in the basements. Thorough testing of the Ash Road-Lehman Street-Vistula Avenue area indicated that six homes exceeded EPA's level of concern for CCl₄ for the Conrail Site, and 5 more homes had detectable levels of CCl₄ but below the level of concern. A plan was generated by Dames & Moore, Conrail's and APU's contractor, to remediate the six homes and continue to monitor the five additional homes. EPA approved this plan, and all six homes have been provided with soil gas depressurization units. Testing of the units that have been installed indicates that CCl₄ has been effectively reduced to non-detectable levels or to a concentration that is below the level of concern for CCl₄.

III. Community Relations History

The proposed ROD Amendment was issued to the public on May 11, 2000. This began a 30 day public comment period on the proposed amendments. A public meeting to discuss and receive comments on the proposed ROD amendment was held at the Harley Holben Elementary School in Elkhart on May 11, 2000. The comment period ended on June 12, 2000. See Section III of the 1994 ROD for the community relations history prior to this ROD Amendment.

IV. Scope and Role of Operable Unit

USEPA has organized this project into two operable units- the interim remedial action and the final remedial action. See the discussion above for details regarding the components of the remedies for the two operable units.

V. Site Characteristics

See 1994 ROD for complete description. Additional post-ROD information regarding site characteristics is summarized in the February 2000 Petition.

VI. Site Risks

See 1994 ROD for complete description. In 1998, an ecological study was performed in the St. Joseph River. The area where the ground water is discharging to the river was located, and biota samples were collected upstream, downstream, and within the discharge area. The conclusions of the ecological study were that the site contaminants entering the river did not cause a noticeable impact on the biological communities in the river.

VII. Remedial Action Objectives

For ground water contamination at the Conrail Site, the cleanup objectives are the MCLs for the following compounds: trichloroethylene (TCE), carbon tetrachloride (CCl₄), 1,1-dichloroethene, 1,2-dichloroethene, chloroform, tetrachloroethylene, and vinyl chloride. A TI Waiver for the DNAPL source areas on the rail yard will serve to waive these remedial action objectives within the area to which the TI Waiver applies. Instead, hydraulic containment will be required for these DNAPL source areas.

VIII. Development of Remedial Action Alternatives

Four alternative cleanup methods were evaluated. Alternative 1 was the no further action

alternative, as required by the National Contingency Plan (NCP). Alternative 2 consisted of hydraulic containment of the DNAPL areas, natural gradient flushing, remediation of the Drag Strip source area, ground water monitoring, and a contingency remedy (if the containment and/or natural gradient flushing failed). Alternative 3 was the same as Alternative 2, except that additional wells were to be installed in the dissolved portion of the ground water contaminant plumes to accelerate the cleanup of the plumes. Alternative 4 was the original ROD remedy, pumping and treating ground water to the drinking water standards throughout the contaminant plumes. This section describes these alternative cleanup strategies. These alternatives are described in greater detail in the Petition.

Alternative 1: No Further Action

The no further action alternative includes no remedial actions for ground water remediation. Therefore, in compliance with the NCP, the no further action alternative is developed and evaluated to serve as a baseline for comparison with other alternatives. Under the no further action alternative, no efforts would be made to mitigate the effects of or control the migration of ground water contamination identified at the Conrail Site.

Estimated Cost: \$0

Estimated Design/Construction Time Frame: 0 Months (No O&M)

Alternative 2: Hydraulic Containment of DNAPL Source Areas; Natural Gradient Flushing; Drag Strip Source Area Remediation; Ground Water Monitoring and Contingency Remedy

This alternative includes a measure to contain the source areas (see Figure 3). A line of extraction wells would be installed, as indicated on Figure 3, to hydraulically contain the DNAPL source areas. Contaminated ground water that is extracted would be treated using air strippers, with the treated water discharged to Crawford Ditch, subject to a demonstration that such discharge will not have an adverse impact on Crawford Ditch and the St. Joseph River. Exhaust from the air strippers would be treated by vapor phase carbon adsorption prior to emission. Spent carbon would be disposed of properly.

The dissolved portion of the contaminant plumes would be allowed to flush naturally. A ground water monitoring program would be established to determine the effectiveness of the source containment and natural gradient flushing, as well as further characterizing the contaminant plume emanating from the Track 69 area and some off-rail yard areas where TCE levels may be increasing. A contingency remedy would be developed to address failure of the hydraulic containment system to adequately contain the DNAPL sources and/or inadequate performance of natural gradient flushing.

The Drag Strip area would be further investigated and remediated. Investigation activities

could include geophysical investigations, such as magnetometer surveys or ground penetrating radar, excavation of test pits, and/or further ground water monitoring. Remedial action at the Drag Strip area could include removal of soil and/or drums, tanks, and containers and off-site disposal, soil vapor extraction, and/or hydraulic containment of the source area on the Drag Strip property.

Estimated Cost: \$4,800,000

Estimated Design/Construction Time Frame: 20-23 Months (O&M 30 Years)

Alternative 3: Hydraulic Containment of DNAPL Source Areas; Natural Gradient Flushing Enhanced By Ground Water Extraction; Drag Strip Source Area Remediation; Ground Water Monitoring and Contingency Remedy

This alternative includes all of the provisions of Alternative 2, with the addition of five off-rail yard extraction wells to speed up the cleanup of the dissolved portion of the contaminant plumes.

Estimated Cost: \$11,400,000

Estimated Design/Construction Time Frame: 3-4 Years (O&M 30 Years)

Alternative 4: Groundwater Containment Beneath Facility, Groundwater Restoration Off-facility. (Selected Remedy in 1994 Record of Decision)

The groundwater extraction/treatment system for this alternative is similar to that for Alternative 2, differing in that extraction of groundwater down gradient from the facility would be expanded to actively restore to cleanup goals those portions of the aquifer outside of the facility boundary. Alternative 4 includes a total of 8 extraction wells on and off the facility, to contain the contamination at the facility and clean up the dissolved portions of the contaminant plumes by emphasizing the cleanup of hot spots off the rail yard facility.

Estimated Cost: \$10,900,000

Estimated Design/Construction Time Frame: 3-4 Years (O&M 30 Years)

IX. Evaluation of Alternatives

A. Evaluation Criteria

EPA's evaluation of remedial alternatives is based on the nine criteria set forth in the National Contingency Plan (NCP), 40 CFR Part 300. These criteria are described below.

A remedial alternative is first judged in terms of the threshold criteria of protecting human health and the environment and complying with Applicable or Relevant and Appropriate Requirements (ARARs). If a proposed remedy meets these two criteria, it is then evaluated against the balancing and modifying criteria in order to arrive at a final recommended alternative.

Threshold Criteria

1. Overall protection of human health and the environment: USEPA determines whether an alternative adequately protects human health and the environment from unacceptable risks posed by hazardous substances, pollutants, or contaminants present at the site.
2. Compliance with ARARs: USEPA evaluates whether an alternative attains applicable or relevant and appropriate requirements under federal environmental laws and state environmental or facility siting laws or provides grounds for invoking a waiver.

Balancing Criteria

3. Long-term effectiveness and permanence: USEPA considers the ability of an alternative to maintain protection of human health and the environment over time, and the reliability of such protection.
4. Reduction of contaminant toxicity, mobility, or volume through treatment: USEPA evaluates the degree to which an alternative uses treatment to address the principal threats posed by the site.
5. Short-term effectiveness: USEPA considers the length of time needed to implement

an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.

6. Implementability: USEPA considers the technical and administrative feasibility of implementing the alternative, such as relative availability of goods and services.

7. Cost: USEPA estimates an alternative's capital and O&M costs and calculates the present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollars.

Modifying Criteria

8. State acceptance: USEPA considers any concerns the state has raised with respect to the preferred alternative, other alternatives or with ARARS or ARAR waivers.

9. Community Acceptance: USEPA considers which components of the alternatives interested persons in the community support, have reservations about, or oppose.

B. Application of the Evaluation Criteria to the Four Cleanup Alternatives

1. Overall Protection of Human Health and the Environment

Alternatives 2 and 3 would provide adequate protection of human health and the environment. Since nearly all of the residents downgradient from the Site were hooked up to the Elkhart City water supply, the risk pathway of ingestion and inhalation of TCE and CCl₄ vapors from drinking water has been almost fully addressed. In 1998, an ecological study was performed in the St. Joseph River. The area where the ground water is discharging to the river was located, and biota samples were collected upstream, downstream, and within the discharge area. The conclusions of the ecological study were that the site contaminants entering the river did not cause a noticeable impact on the biological communities in the river; thus, there are currently no unacceptable ecological impacts at the Site. Alternative 1 would not address the source areas on the rail yard; thus, this contamination would continue to feed the contaminant plumes for hundreds of years. Alternatives 2 and 3 would provide adequate containment of source areas on the rail yard, with Alternative 3 providing a quicker reduction of contaminant levels in the dissolved portions of the contaminant plumes. Alternative 4 would probably not provide adequate

containment of the source areas, but would provide accelerated cleanup of the dissolved portion of the contaminant plumes. Alternatives 2 and 3 would provide adequate protection of residents from CCl₄ vapors in basements by cleaning up or containing the source areas on the Drag Strip property; whereas, Alternatives 1 and 4 may not. Although five homes have been provided with vapor venting units to reduce CCL₄ vapor levels in their homes to acceptable levels, there are several residents in the potentially impacted area which have not granted access for vapor testing. Since there are no provisions for cleaning up or containing the Drag Strip source areas included in Alternatives 1 and 4, these alternatives may not be as protective of human health as Alternatives 2 and 3.

2. Compliance with ARARs

Although all four alternatives would eventually meet the cleanup objectives (drinking water standards) for the chemicals of concern, the time required to achieve these ARARs would vary greatly. Alternatives 1 and 4 would probably take hundreds of years to achieve ARARs. Alternatives 2 and 3 would meet ARARs much more quickly, by providing a TI Waiver for and adequate containment of the rail yard source areas. Containment of DNAPL source areas is an essential element of accelerating the ground water cleanup at the Conrail Site. Alternative 3, by including extraction wells in the dissolved portion of the contaminant plumes, would achieve ARARs more quickly than Alternative 2; however, modeling performed in the Petition indicated that this difference would not be significant.

3. Long term effectiveness

Alternatives 1 and 4 would not be effective in the long-term since neither alternative contains any provisions to address the Drag Strip source areas. This may result in future exposure of residents to unacceptable vapor levels of CCl₄ now and in the future. Alternatives 2 and 3 would provide long-term effectiveness since both alternatives include provisions for cleaning up or containing the Drag Strip source areas. Alternatives 2 and 3 also include a contingency remedy in the event that the DNAPL ground water source areas on the rail yard are not adequately contained, and, for Alternative 2, that natural gradient flushing is not effective in reducing contaminant levels in the dissolved portion of the contaminant plumes

4. Reduction of Toxicity, Mobility or Volume through Treatment

Alternatives 2 and 3 would provide a much greater level of reduction of mobility and volume via containment of the DNAPL source areas on the rail yard and remediation or containment of the CCl₄ source areas at the Drag Strip.

5. Short-term effectiveness

Alternative 1 (No Further Action) would provide the greatest level of short-term effectiveness. Alternatives 3 and 4 may create more short-term impacts due to the installation and operation of extraction wells off the facility.

6. Implementability

All four alternatives are implementable. Alternatives 2, 3, and 4 all use effective, proven technologies.

7. Cost

The total present worth costs for the alternatives is as follows: Alternative 1- \$0; Alternative 2- \$4,800,000; Alternative 3- \$11,400,000; and Alternative 4- \$10,900,000. Alternative 1 is the least costly, and Alternative 2 is significantly less costly than Alternatives 3 and 4.

8. State Acceptance

State concurrence with the ROD Amendment is anticipated.

9. Community Acceptance

A few comments were received orally and in writing. These comments are addressed in the attached responsiveness summary. One change to the recommended alternative that was made as a result of an oral comment was that rather than requiring that treated ground water from the containment wells to be discharged to Crawford Ditch, subject to a demonstration that such discharge will not have an adverse impact on the St. Joseph River, this component of the selected remedy now reads: "Treated water will be discharged in a manner that will not adversely impact Crawford Ditch and the St. Joseph River."

Results of Comparison Using the Nine Criteria

Only Alternatives 2 and 3 meet the two basic, threshold criteria: they both would provide for protection of human health and the environment; and they would meet state and federal ARARs. Alternative 3 would meet ARARs for the dissolved portion of the plume more

quickly than Alternative 2.

Considering the balancing criteria, Alternative 2 is superior in terms of short term effectiveness and cost. Alternative 2 would cost \$6.6 million less than Alternative 3.

The final step in the comparison is to consider the two modifying criteria: state and community acceptance. Based on comments received from the Indiana Department of Environmental Management and the public, USEPA has concluded that the state and community support the change in the remedy. There is no preference indicated for either Alternative 2 or 3, based on the public comments received by USEPA. USEPA has therefore decided to change the ground water component of the remedy for the Conrail Site by amending the 1994 ROD and selecting Alternative 2.

X. The Selected Remedy

The ground water remedy for the Conrail Site is Alternative 2 - hydraulic containment of DNAPL source areas; natural gradient flushing; drag strip source area remediation; ground water monitoring; and contingency remedy. The components of this remedy are as follows:

- N Waiver of ground water ARARs in the area on the rail yard indicated on Figure 3;
- N Installation of a line of extraction wells to hydraulically contain the DNAPL source areas on the rail yard;
- N Air stripping of contaminated ground water that is extracted, with subsequent discharge of treated water in a manner that will not adversely impact Crawford Ditch and the St. Joseph River;
- N Treatment of exhaust from the air strippers with vapor phase carbon adsorption prior to emission, with proper disposal of spent carbon generated by the process;
- N Natural gradient flushing of the dissolved portion of the contaminant plumes;
- N Establishment of a ground water monitoring program to determine the effectiveness of the source containment and natural gradient flushing, as well as further characterization of the contaminant plume emanating from the Track 69 area and some off-rail yard areas where TCE levels may be increasing;

- N Development of a contingency remedy to address failure of the hydraulic containment system to adequately contain the DNAPL sources and/or inadequate performance of natural gradient flushing. The contingency remedy for inadequate performance of natural gradient flushing would be to install and operate additional extraction wells off the rail yard, as outlined in Alternative 3. For inadequate containment of DNAPLs, the contingency remedy would be to increase the pumping rate of some or all of the extraction wells on the rail yard and/or installation and operation of additional extraction wells; and
- N Further investigation and remediation of the Drag Strip area. Investigation activities could include geophysical investigations, such as magnetometer surveys or ground penetrating radar, excavation of test pits, and/or further ground water monitoring. Remedial action at the Drag Strip area could include removal of soil and/or drums, tanks, and containers and off-site disposal, soil vapor extraction, and/or hydraulic containment of the source areas on the Drag Strip property.

XI. Statutory Findings

Section 121 of CERCLA requires the Agency to select remedies that:

1. Protect human health and the environment;
2. Comply with ARARs (or meet the conditions necessary to justify a waiver);
3. Are cost effective;
4. Utilize permanent solutions and alternative treatment technologies to the maximum extent practicable; and
5. Satisfy a preference for treatment as a principal element of the remedy.

The implementation of the amended remedy at the Conrail Site satisfies these requirements as follows:

1. Protection of Human Health and the Environment

Hydraulic containment of DNAPL source areas on the rail yard, natural gradient flushing of the dissolved portion of the ground water contaminant plumes, and remediation of the Drag Strip source areas will be protective of human health and the environment.

2. Attainment of Applicable or Relevant and Appropriate Requirements

The selected remedy includes a provision for an ARARs waiver for the DNAPL source areas on the rail yard. The selected remedy will attain ARARs for the dissolved portions of the ground water contaminant plumes. A complete list of ARARs is included in the 1994 ROD for the Conrail Site; the ARARs for ground water, those associated with operation of extraction wells and discharge of treated water, and, if implemented at the Drag Strip, those for removal of contaminated soils and/or containers apply to this ROD Amendment.

a. Chemical-specific ARARs

Maximum contaminant levels (MCLs) established pursuant to the Safe Drinking Water Act are ARARs for the Conrail Site. The cleanup levels established for groundwater in this ROD for specific chemicals are consistent with these criteria. The area of the Site where ARARs have been waived is shown on Figure 3. The specific ARARs that have been waived in this area of the Site are the MCLs for the following compounds:

carbon tetrachloride	5 ug/dl
1,1-dichloroethene	7 ug/dl
trichloroethylene	5 ug/dl
1,2-dichloroethene	70 ug/dl
tetrachloroethene	5 ug/dl
chloroform	6 ug/dl
vinyl chloride	2 ug/dl.

b. Action-specific ARARs

Air Emissions

The requirement for vapor phase carbon adsorption for the air discharge from the air strippers meets or exceeds applicable federal and state law for the prevention of significant deterioration of air quality.

Water Discharge

The treated water discharged from the air strippers will meet all applicable federal and

state requirements for such discharge.

3. Cost Effectiveness

Alternative 2 will cost \$6.6 million less to implement than Alternative 3. Alternative 2 also provides better short-term effectiveness than Alternative 3. Alternative 3 will meet ARARs in less time than Alternative 2 (approximately 70 years versus approximately 125 years).

Given the facts that all but three residences with levels of contaminants that exceed the applicable drinking water standards are hooked up to the Elkhart City water supply (these three residences have been supplied with filters) and that the cost of Alternative 2 is significantly less than that of Alternative 3, with only a one-third increase in the remediation time frame, EPA feels that Alternative 2 is the most cost effective remedy that meets the threshold criteria of overall protectiveness of public health and the environment and compliance with ARARs.

4. Utilization of Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable

The preamble to the current version of the NCP discusses how to evaluate the practicability of treatment:

Cost differences must also be considered in the context of all other differences between alternatives to reach a conclusion as to which alternative, all things considered, provides the most appropriate solutions for the site or site problem. It is this judgement that determines the maximum extent to which permanent solutions and treatment are practicable for the site or site problem being addressed. (54 FR 8729)

In this case, the TI Waiver was sought by the Potentially Responsible Parties due to the fact that it is impracticable to clean up DNAPLs at the Site in a reasonable time frame. Therefore, containment is the appropriate remedy for the DNAPL source areas. Alternative 2 includes the provision of treatment of extracted ground water via air stripping. Thus, for the Conrail Site, permanent solutions, alternative treatment technologies, or resource recovery technologies have been used to the maximum extent practicable.

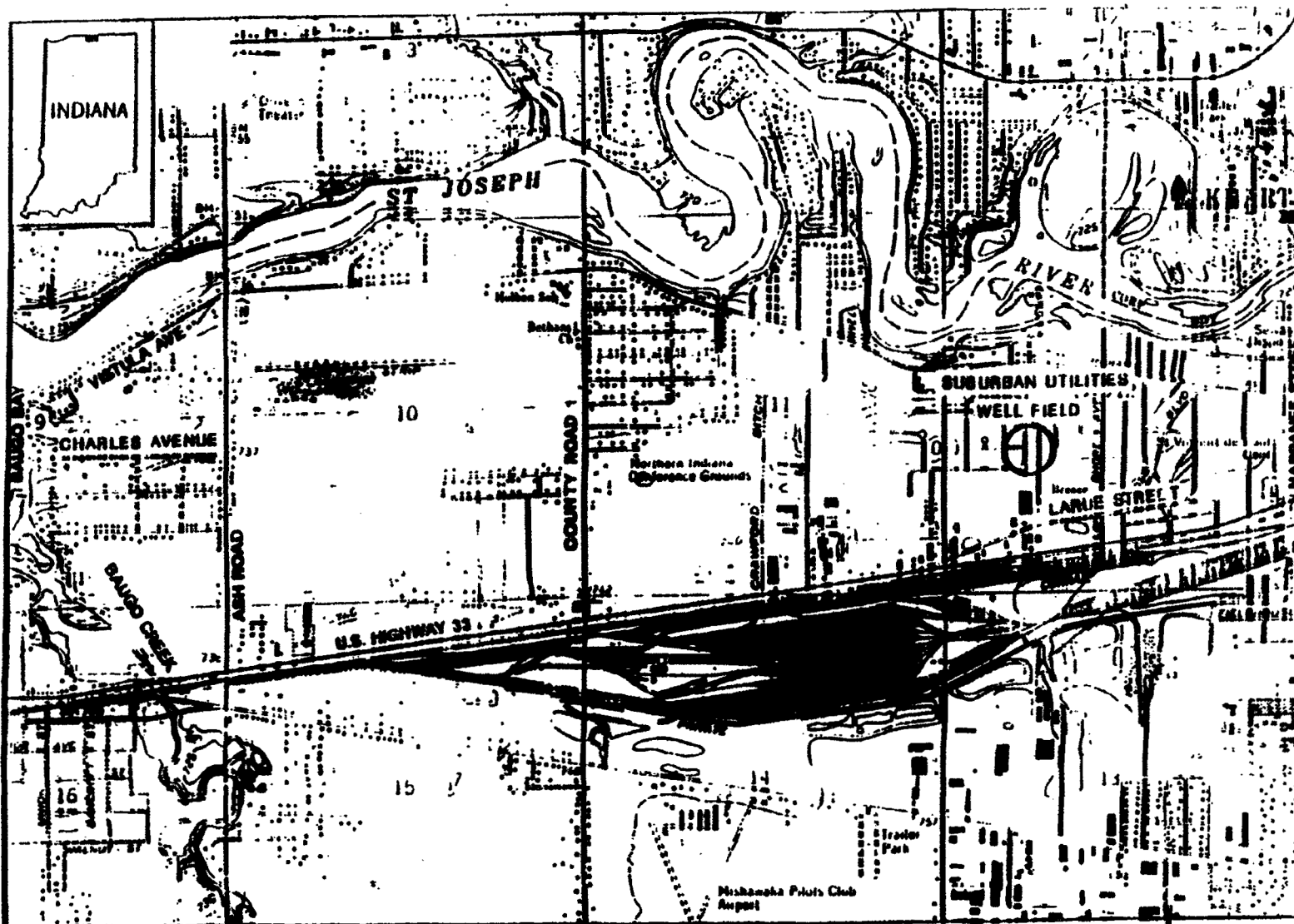
5. Preference for Treatment as a Principal Element of the Remedy

In comparing alternatives, USEPA did give preference to treatment. That is, USEPA

assigned greater weight to the treatment criterion than to the other balancing criteria. However, because of the impracticability of cleaning up the DNAPL source areas to drinking water standards in a reasonable time frame, it was not possible to include treatment as a principal element of the remedy. However, treatment of the extracted ground water via air stripping is included in the selected remedy. Because this remedy will result in hazardous substances remaining on-site during extraction/treatment, a review of the status of the remedy will be conducted within five years of commencement of the remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

William E. Muno, Director
Superfund Division

Date



SOURCE: Ecology and Environment, Inc., 1983; BASE MAPS: USGS, Elkhart, IN Quadrangle, 7.5 Minute Series, 1961, Photorevised 1981; USGS, Coconino, IN Quadrangle, 7.5 Minute Series, 1969, Photorevised 1980.

FIGURE 1 CONRAIL SITE STUDY AREA LOCATION MAP